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# Creating Local Competition

Joseph Farrell
*Federal Communications Commission*

# SPEECH

# Creating Local Competition

**Joseph Farrell***

We are embarked on an exciting project to create competition in one of the largest noncompetitive industries in the U.S. economy: the bottleneck segment of telecommunications, the "last mile" to your home or office from local "central office" switches. This is often somewhat misleadingly called the "local telephone network."

That name is misleading, although I will doubtless end up using it out of habit (I see I already did in the title). It's misleading because the bottleneck facilities are used for communications both local and nonlocal. These facilities—roughly speaking, loop and local switching—constitute a bottleneck for local, semilocal, long-distance, international, and—we're forward looking, right?—perhaps interplanetary service. Every call you make from your home phone travels along the same loop to the same central office switch, so perhaps we should call it the "bottleneckwork."

As this suggests, it's more helpful in various ways to focus on *things* than on *services*. More on this later.

This bottleneck segment of the telecommunications network is traditionally viewed as a "natural monopoly." What does this term mean? It means that bigger is more efficient, to such an extent that two interrelated conclusions follow. First, that competition cannot thrive, because a bigger firm is more efficient and will therefore grow at the expense of a smaller rival. Second, that competition would be inefficient, because one way or another it involves splitting the market, with the result that no firm is as big

* Chief Economist, Federal Communications Commission. This speech was originally presented May 15, 1996 before an open audience at the Federal Communications Commission. The views expressed represent the author's, and do not necessarily represent the Commission's or any Commissioner's.

(that is, efficient) as it could be.

Why, then, are we bent on implementing competition here? The short answer is because, in the 1996 Telecom Act,[1] Congress tells us to. The longer answer is that over the decades telephone regulation, like the tax code, has grown unwieldy, unmanageable, inefficient, and dysfunctional. It's time to find an alternative. Competition is the greatest technique ever invented to bring about innovation, low prices, choice, and efficiency. If we can efficiently create competition in this so-called natural monopoly, we'll have done a great thing.

How great a thing? We won't know until we've tried it. But gains in efficiency equal to several percent of gross revenues would be fairly modest by the standards of what firms can achieve when challenged by competition. Even price caps have led to much greater than predicted efficiency gains—hence the phone companies' greater profitability under price caps—and there are reasons to think price caps are a poor incentive system compared to competition.

Not only do individual firms challenged by competition find ways to cut prices and improve their products and their customer service, but customers also get a choice, so even if (to pick on the local incumbent only because it's the local incumbent) Bell Atlantic for some reason doesn't respond and improve its offerings, Washingtonians may be able to choose Ameritech's service, or Sprint's, or TCI's, or Microsoft's. Better firms grow, which produces even higher powered incentives to be better, and gives the average consumer more than the firm-by-firm average improvement.

If competition is so wonderful, how come we don't have it? Well, I'm not a historian, but I'll play one on closed-circuit TV to give you an oversimplified version of how we got where we are. (I'll probably tell some historical fibs—not on purpose—but I hope it'll still be helpful rather than confusing.) It turns out that a little history helps a lot in understanding where we can go from here.

Let's begin then with Alexander Graham Bell who was issued a patent for his ingenious invention. Bell offered the patent to the telecommunications giant of the day, Western Union, for $100,000.[2] They said no. (Bad mistake!)

So Bell went into business to exploit this telephone gadget. The patent was on the device, what phoneheads call the handset, and anyone can string

1. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56.

2. *See* MICHAEL K. KELLOGG ET AL., FEDERAL TELECOMMUNICATIONS LAW § 1.2.1 (1992).

a wire, so it seemed natural to rent out the handsets (at a high price, reflecting the patent monopoly) and maybe even let people do their own wiring.

The problem with this approach is that after seventeen years the patent expires, and then Bell would have nothing: anyone else could market the handsets, and anyone could string a wire. Fortunately, consciously or not, the Bell Company came up with a brilliant idea: the switched network.

In a simple switched network, everyone is connected to a central node, and an operator or machine connects the wires there in order to form a circuit between the people who want to talk. This greatly reduces the amount of wire needed: it's just more efficient, provided there are enough customers and the switching function is not too expensive compared to wires.

Much more interestingly, though, it also creates a difference in cost between a large (or dense) network and a small (or sparse) network, *if* they don't cooperate with one another. The denser network can have more lines per switch and shorter wires (or loops). So, provided Bell could sign up enough customers before its patent expired, it would have an automatic cost advantage over any entrants, as long as the entrants were smaller.

And, for Bell, it's better than that. A smaller network, by definition, has fewer subscribers, and so—again assuming they don't cooperate—it's less likely that the person you need to reach subscribes to the smaller network. Not only would Bell have a cost advantage over entrants, but buyers would prefer Bell if the prices were equal, because of the larger base of subscribers. Long before IBM or Microsoft, Bell came up with a business strategy based on leveraging the advantages of its relatively large installed base.

And, indeed, that's the way competition went after the patent expired. Independents did thrive, but only where they could overcome those advantages, because Bell had not built in an area, or had priced so high that it left out too many potential customers, or in some other way failed to exploit its advantage fully.

## WARNING: ABSTRACT ECONOMICS AHEAD (BUT IT'S IMPORTANT)

I'd like to pause here and make a rather abstract economic point that I'll return to later. The patent was for an invention, essentially a piece of information. Information is an unusual kind of economic good, because sharing costs nothing. It's like the flu: I can give it to you and still have it myself. So, it might seem dog-in-the-mangerish, and is economically inefficient ex post, for an inventor to refuse to share.

But of course there's a reason an inventor may refuse to share:

although sharing doesn't take anything away from me, it does give something to my competitor, and in a competitive environment that makes me worse off. Also, an inventor who is perfectly willing to share may want the option of not sharing so as to extract some value from those who want the information. And there's a good policy reason not to require sharing: doing so might unduly reduce the reward to inventing. The patent system is a compromise solution to this problem: the inventor can exclude others for a while, but then must share.

Information is not the only competitive asset with those features. The economies of density and the can-call-more-people advantage (what economists call the "network externality") have the same property. For instance, if Bell allowed the independents to interconnect, it wouldn't lose network externalities—on the contrary, they would be enhanced. If the two networks became one, with what we would now call unbundling, Bell would not lose economies of density—on the contrary, they would be enhanced. But Bell may prefer to exclude its rivals, because to a great extent it is *relative* capabilities that matter in competition. No policy then said that Bell must eventually share *these* efficiencies. In that sense there was an unexplained asymmetry of policy: patent policy said eventual sharing (without charge); no similar policy said the same for network externalities and economies of density, despite the similarities I've pointed out. We'll come back to this important point later.

## REGULATION AND INFECTIOUS MONOPOLY

Skipping over a great deal of history, we come to regulation. As part of the regulatory process, as we'll discuss briefly, the telephone system became viewed as a single business entity, with just one economic constraint: total revenues must correspond pretty much to total costs. (Actually, that's not right, because of separations if nothing else. But that's another story.)

It's not clear that regulators cared very much whether prices corresponded to costs. If they ever did care, it probably got beaten out of them by the recognition that, while they were setting prices for *services* such as local flat-rate service and long-distance calls, costs really didn't correspond to services at all. "Joint" or "common" costs—costs not directly attributable to the services being priced—are tremendous. In particular, the rather large cost of stringing a loop to your home is "common" to just about every telephone service you can think of. This made it open season for setting prices more or less however regulators wanted, provided only that they raised the right amount of money in total.

If regulators chose—and they did—to charge consumers much more

than incremental cost for long-distance calls, they wouldn't have to charge so much for local service, and that seemed like a good thing. If regulators chose to charge businesses more than residents, and urban residents more than rural residents, there was nothing to stop them. All these decisions, of course, were far from simple, and involved interplay between state and federal regulators, consumers, voters, and the companies. But, competitive forces played little part.

On the contrary, once these *internal cross-subsidies* were in place, competition became seen as an enemy. The most tempting place for competitors to enter would be in the segments of the market where prices were above cost. This wouldn't necessarily indicate that the competitors were any more efficient than Bell, just that they were able to undercut the inflated price. And not only might such competition be inefficient, it would also threaten the internal subsidy flows to the favored segments of the market where price was below cost. Recently, Professor Lawrence White succinctly stated that: "competition is the enemy of cross-subsidies."[3] As we'll discuss later, this depends on how the cross-subsidies are structured, but I think he's right as regards implicit internal cross-subsidies. And yet the greater the cross-subsidies, the greater the incentive to enter.

Thus, it was tempting for regulators, who wanted to set prices without having to worry about attracting nuisance competition, simply to prohibit competition. Of course, this seemed like a pretty good idea to Bell too. So, competition was out. As Professor White put it, "cross-subsidies are the enemy of competition, *because* competition is the enemy of cross-subsidies."

How far would such a ban on competition extend? From Bell's point of view, the answer would probably be "as far as possible." Regulators might join in that answer if they were thoroughly "captured" by the regulated firm, as many cynics suggest regulators tend to be. Another possible reason for regulators to regulate as much as possible is bureaucratic empire building. It's hard for us at the FCC this year to imagine the agency trying to take on more work, but maybe things were different then.

But there's a more interesting answer, and one that attributes better motives to regulators (so it's more acceptable in this room). The telephone regulators saw themselves as benevolently trying to raise a "revenue requirement" with the least possible pain. It was as if they were in the tax business. And it's a well-established principle of economics that you minimize the total pain of taxes by spreading them—not necessarily uniformly—over as broad a tax base as possible. In any event, you have

3. Professor Lawrence White, Professor of Economics, New York University.

more options.

So, for a variety of motives ranging from bad to good, the regulatory view was hostile to competition even where competition could perhaps have survived. The height of this attitude was the infamous *Hush-A-Phone* case.[4] The Hush-A-Phone, as many of you know, was a rubber cup you'd put over the mouthpiece of your phone to keep out extraneous noise and to get some privacy. It was supplied by an independent firm. AT&T complained to the FCC that this was intruding on the integrity of its "one system." And the FCC agreed.[5]

Perhaps the only way to understand this decision is to put yourself in the mindset of a regulator who knows that competition is the enemy, and who sees incipient competition even in this innocent little low-tech gadget. By gosh, you have to draw the line somewhere, and this thing was "attached" to the handset, so it was attached to the network.

The courts overturned the FCC's *Hush-A-Phone* decision, reasoning that there was no harm in such a device.[6] But, from the regulatory viewpoint, perhaps the Commission may have been right to be paranoid about it, because it brought in the logic of "why not peripheral competition?" As Professor Richard Vietor put it, "Deregulation began more or less with a rubber cup."[7]

Thus, in due course various pieces were split off from the monopoly system. Regulatory leverage weakened or became less fashionable. The best known, of course, was MCI and the introduction of competition to long-distance. The MCI story is too long to tell here, and is not our main point. Let me try to summarize in a few sentences. MCI started by building a "shared private" system, undercutting AT&T's long-distance prices, which, recall, were well above incremental cost. MCI later fought long and hard for interconnection with the Bell system's bottleneckworks, which AT&T wanted to deny or to price at a high price. In the end, the solution was what we know today as access charges—an explicit formalized contribution to the bottleneck operator for long-distance use of the bottleneck work.

When AT&T was competing with MCI and others, but also controlled the bottleneck, it became clear that AT&T had an incentive to discriminate against MCI in interconnection. As regulatory leverage withdrew, it appeared that business leverage was ready to do the same job, and monopoly would tend to spread through such discrimination into long-distance and other related, potentially competitive, segments.

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4. Hush-A-Phone Corp. v. United States, 238 F.2d 266 (D.C. Cir. 1956)
5. *Id.* at 268.
6. *Id.*
7. RICHARD VIETOR, CONTRIVED COMPETITION 190 (1994)

Roughly speaking, there are two problems. First, if a local bottleneck provider favors its long-distance affiliate by subtlely withdrawing full cooperation from other long-distance companies, it can make excess profits in long-distance because it has hamstrung its long-distance rivals. It may make less money in its bottleneck as a result, but that may not deter it, and then "infectious monopoly" results. Second, if a regulated monopolist, such as the then AT&T, reports as bottleneck costs what are really long-distance costs, it may be able to defraud ratepayers who are committed to covering the costs of the bottleneck.

These problems are hard to regulate away, because the withdrawal of cooperation from rivals may be subtle, shifting, and temporary, but yet have real and permanent effects, and because cost allocation is a dark mystery. Recognition of this difficulty led to a dramatic solution: the *Modification of Final Judgement* (the *MFJ*), which quarantined the monopoly lest it infect the competitive segments.[8]

Under the *MFJ*, then, the BOCs were excluded from a variety of businesses in which they might well be efficient or strong competitors. They were excluded for a good reason: their incentive and ability to discriminate against rivals and to misallocate costs between regulated and unregulated businesses. But even though the reason was sound, it was never costless to exclude them. And beyond the direct inefficiency of excluding competitors, the *MFJ*'s prohibitions contributed to the general atmosphere of protected enclaves.

What can be done about this? The *MFJ* or quarantine solution sacrifices some competition and some efficiencies, as well as contributing to an atmosphere of pervasive restrictions. The purely regulatory solution probably doesn't work very well, or so the court thought after examining the record. The most promising approach, if it works, is to open up the bottleneck.

The BOCs' incentives and ability to discriminate against rivals in long-distance—to take the most prominent example of *MFJ* prohibitions—depend on their market power in the local bottleneck. If we can open up the bottleneck and implement vigorous competition there, then BOCs will have little or no incentive to raise the costs of their long-distance partners—and if they do so, those long-distance carriers and their customers will have other choices, so the harm to consumers will be limited. Thus, when there is enough competition in what is now the local bottleneck, it will make good sense to let the BOCs into complementary businesses such

8. United States v. Western Elec. Co., 552 F.Supp. 131 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).

as manufacturing and long distance. This constitutes yet a further benefit from successfully introducing "local" competition.

Let me turn next to one of the most contentious areas of price regulation and try to explain how it, too, may be greatly eased if we can open up the bottleneck.

## ACCESS CHARGES AND ACCESS REFORM

Today, an important part of LECs' revenue flow comes from charging interconnection fees well above incremental cost to long-distance carriers, and thus to their customers. In a sense this system is a triumph of overcoming the alleged enmity of cross-subsidies and competition: the subsidy flows, instead of being largely implicit and internal as they were before MCI and the *MFJ*, are preserved in an explicit and—at least under the *MFJ*—competitively neutral fashion. But as we move towards allowing BOCs into long-distance the question of competitive neutrality arises again, and in any case high access charges lead to economic inefficiencies from high prices (users are dissuaded from long-distance calls they'd otherwise make), cream-skimming rather than more efficient competition, and pressure for blocking of competition that evades those charges. So it's time to look again at the access charge system and ask: How does it fit with competition?

Most economists, I believe, would say that access charges should be lower, and I agree. I also believe that, almost whatever regulators do or try to do, in the long run competition will put pressure on access charges. But I'd like to stress a different (though related) point, concerning the role of access charges or their equivalent under the kind of competition that we are trying to create.

Although the *incremental* cost of access service is way below current access charges, access is a *service*, not a *facility*, and as such it has huge joint costs with other services using the same facilities. What does this tell us about how access will be priced in a competitive, or fairly-competitive, market?

I believe the answer is that *facilities* will be competitively supplied, or priced (under regulation) at an approximation of competitive prices, and that the holder of a *facility* may price *services* at will. If anyone tries to price the services of a facility too high overall, competitors will undercut those offerings. How prices for services cover services' joint costs will be up to the holder of the facilities. Competing facilities-holders (whether using their own facilities or "unbundled" elements purchased from an incumbent) will compete to offer customers the most attractive package of service prices that they can afford to offer.

Regulators will thus be able to exit from the burdensome business of setting or approving service prices, with their immense joint and common costs, and at most will have to ensure that the unbundled element prices are appropriate. That should be a far easier task, because the cost of an unbundled loop, for instance, is surely much more concrete than the cost of interstate access service. The cost of *things* is much better defined than is the cost of each of many *services* produced using those things.

I don't suggest that the outcome of such a market will be ideal. For example, some economists have pointed out real problems associated with terminating access: the customer is not the one who pays those charges, and so a package of service prices that includes high terminating access charges and low everything else may look good to the subscriber but gouge those who call her. In addition, there may well be antitrust concerns associated with competitors signing agreements with one another concerning the prices they charge each other for essential inputs. Thus, there may remain a need for limited procompetitive intervention. But in the long run—which I hope is not too long—I hope for an end to much of Part 69.[9]

In the short run, we may need to remain more interventionist. We plan to have an access reform proceeding this year. But we also must determine how access charges and the Act's interconnection provisions fit together.

My proposed answers start from the principle that our decisions should be consistent with the long-run answer sketched above. Therefore, I believe that a carrier who takes an unbundled loop and local switching at cost-plus-reasonable-profit is *not* obliged also to pay access charges to the incumbent. *A fortiori*, the same is true of a carrier with its own facilities. On the other hand, a carrier who takes local service as a wholesale offering from an incument *is* obliged to pay the same charges (less avoided cost) as the end user would otherwise (in effect) pay the incumbent, and this includes access charges: those are part of the package of service prices the customer has been taking, and therefore part of the package the reseller is buying, although of course the reseller is free to reprice to the customer if it can construct a package of service prices the customer would prefer.

Finally, can an interexchange carrier (IXC) demand termination under the mutual termination requirement of the Act? My answer here is somewhat more pragmatic: surely Congress would have made clear had it intended that long-distance carriers could simply demand termination at cost, which would do dramatic things to the LEC's finances. And wouldn't it also imply that the LEC could demand termination by the IXC of long-distance calls made by the LEC's customers? This answer also is linked

9. 47 C.F.R. § 69.1 (1996).

with economic logic: it would make sense—especially in the infant stages of competition—to prevent carriers in general and incumbents in particular from setting monopolistic or anticompetitive terminating access rates to direct competitors, but the argument is less strong for their rates to those who are not direct competitors.

All this is by way of explaining that many benefits will flow from implementing effective competition in the bottleneck. At long last, let's turn to how we may be able to do that.

## DEMONOPOLIZING: LEVELING THE PLAYING FIELD UPWARDS

That then brings us, at last, to our central topic: How can you demonopolize a natural monopoly? Believe it or not, the key is in the abstract economic point I made earlier about intellectual property not being so unique. Recall that the patent system requires sharing of intellectual property after the patent expires. If we can do something analogous with network externalities and economies of density, maybe the natural monopoly won't be so natural any more.

Just as we would not want to reduce the life of a patent from seventeen years to seventeen minutes, since that would reduce innovative effort, so also it would be unwise policy to make all developers of network externalities share them in all circumstances. I don't know of any worked-out general policy for this problem. But, in the 1996 Telecom Act, I believe, Congress asserted that sharing is the right thing in this industry at this time.[10] Our job, as I see it, in the interconnection proceeding, is to implement that decision, to level the playing field upwards, and to remove the economic entry barriers that the incumbent's installed base otherwise creates.

Very broadly speaking, the requirement for mutual termination means that network externalities are shared and preserved, and the resale and unbundling requirements mean that economies of density are shared and increased.

But merely requiring termination agreements, resale, and unbundling is probably not enough, just as it would not be enough in terminating a patent life to say that now licensing is required. To understand this, think about the negotiation process. All negotiations take place against a backdrop of "what will happen if we don't agree" and of "what will happen while we're negotiating." Under what you might call the normal rules of business negotiation, mutual termination won't happen until and unless there's a

10. Telecommucations Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

mutual termination agreement. So, the backdrop is the situation we talked about before, which is very bad for the entrant and not so bad for the incumbent. This creates great asymmetries in bargaining power, and can be expected to lead to asymmetric agreements that favor the incumbent. Indeed, we saw such asymmetric agreements between LECs and cellular carriers, even without the LEC's having an incentive to do down the other carrier, as it would with a competitor. (I hope it's clear that these bargaining power asymmetries stem from the differences in who needs an agreement, not from the size of the parties.)

Therefore, for true sharing of network externalities, and for true sharing of economies of density, some intervention in the bargaining process is likely needed. There are several such interventions possible:

- The "long-distance entry carrot": An agreement is one of the conditions for a BOC to be permitted to enter the long-distance market. Of course, just that is specified in the Act. I don't see this as fully equalizing bargaining power, but it clearly helps.
- The arbitration backdrop: We, or the states, could make it clear that if negotiation goes to arbitration, then the arbitrated result will reflect costs, not asymmetric bargaining power.
- An interim rule: We, or the states, could attempt to repair the bargaining power imbalance by specifying an outcome, such as bill-and-keep, that is (thought to be) favorable to the entrant, for implementation during the negotiations. This would have the added advantage of ensuring that entry is not delayed.

I hope I've said enough to convey my belief that economic logic predicts that opening up the bottleneck will not happen automatically. All of it needs to be negotiated in the shadow of prospective arbitration that clearly rejects agreements based on differential bargaining power. Because the differential bargaining power is there, implementing such arbitration is not going to be an easy thing to do. The Act gives that awesome responsibility to the states, guided by principles that we at the FCC promulgate.[11] As you know, one of the hardest and most controversial questions is how much should be done here and how much by the states; I'm not going to comment on that controversy today.

Instead, I'd like to give you a statistic compiled by one of the staff here at the Commission, who went through the 1996 Telecom Act and counted (electronically, I do hope) the number of times the word *shall* was used. As I recall, it was 2,036 times. The question is, How can an Act that says "shall" 2,036 times be deregulatory? And a related question: if

11. *Id.*

Congress has deregulated, how come I keep being here till midnight?

Well, as you know, until recently we had the wonderful oxymoron of the "Modification of Final Judgement," or *MFJ*. Now that the *MFJ*'s gone, we need another good oxymoron, and "wireless cable" doesn't quite have the same ring to it. So here's a new oxymoron for telecom: Deregulation through Rulemaking.

The point is that the procompetitive interconnection and unbundling rules, like the procompetitive antitrust laws, swim upstream against some powerful anticompetitive forces. So we need to implement rules to make sure those forces don't win out. That's why we're up late and why we're busy, and why Congress had to sound regulatory in what, in the long run, will indeed be an extraordinarily deregulatory Act. And it's why the title of this talk was "Creating" Competition, not just "Allowing."

One more point on leveling the playing field. It's important that the playing field should be leveled upwards, not downwards. Like most economists, I am uncomfortable with rules that forbid a firm from exploiting efficiencies just because its rivals cannot do likewise. Such handicapping, or leveling without regard for up or down, may make for a good game, but the game is only a metaphor. When firms are hamstrung, even in order to equalize them with other firms, consumers are liable to lose out.

I've talked a lot about the benefits of creating competition, which after all was the title of the talk. But Congress has made it clear that in parallel with creating competition we must also work towards universal service. So I'd like to close with a little discussion on that topic.

## UNIVERSAL SERVICE

Universal service is a knotty problem. I would like to put forward what I see as some of the most important "nots."

### *UNIVERSAL SERVICE IS NOT NETWORK EXTERNALITIES*

In the telephone system, each subscriber values the network more, the more people are connected: economists often describe this phenomenon as a "network externality." Recall that, as a competitive issue, this is why termination agreements are likely to be essential to entry.

It's tempting to construct a justification for universal service concerns out of this externality: that we should intervene in the market so as to increase penetration beyond what a competitive market would yield, because that way all subscribers are better off. Qualitatively, that's correct, and it's a nice thought that we can help out the disadvantaged in the name of informed economic efficiency. Unfortunately, I'm not aware of any

evidence that the universal service system, or its goals, are really based on this.

Rather, I think we should frankly recognize that Congress, on our behalf, has decided that Americans should have affordable access to telecommunications, just as we have a similar policy with respect to education and health care.

### *UNIVERSAL SERVICE DOES NOT JUSTIFY ENTRY BARRIERS*

Many economists are suspicious of the goal of universal service. Why is that? Are economists just ruthless, selfish rich people? Well, some of them are (I could tell some economist jokes here). But I think there are some good reasons to be suspicious of the way universal service is now pursued. I think we can fix that, and pursue it in a more productive way; indeed, I think we must do so.

Fundamentally, economists have two main concerns about the universal service problem. First, doing anything other than pricing at cost imposes some loss in economic efficiency. This can easily be overblown, at least as far as the subsidy side of the equation is concerned. Pricing basic service below cost for vulnerable consumers is, frankly, not going to impose a big loss in efficiency, even if we reject the network externality argument. A much bigger "allocative efficiency" problem comes with pricing access and toll services way above incremental cost, in part in order to support the subsidy of basic service. That is a serious problem, and in both our universal service proceeding and our access reform proceeding we need to take a hard look at how needed subsidies are funded. It also tells us that to minimize the economic efficiency cost of universal service we should work to minimize the dollar amount that has to be raised. Presumably this means narrowly targeted subsidies to those who need them.

Economists' second concern is the problem of regulatory leverage which I discussed earlier. When certain services are priced above cost in order to fund a subsidy for other services provided by the same carrier, it is tempting to keep that internal and implicit rather than explicit, and then two bad things happen. First, artificial incentives to enter are created: an entrant sees a price well above the incumbent's cost, and behold, the entrant can beat that price, even if it is less efficient than the incumbent! Second, whether the entry is efficient or inefficient, it threatens the implicit subsidy; hence the incumbent and the regulator want to prevent the entry. To quote Professor White again, "Cross-subsidies are the enemy of competition, *because* competition is the enemy of cross-subsidies."

I said that many economists are suspicious of the goal of universal service, and I've tried to explain their suspicions, which I believe must be

taken seriously. Nevertheless, Congress has told us that *both* competition *and* universal service are to be developed. Therefore, we economists must work to ensure that whatever subsidies are needed to ensure universal service are *not* the enemies of competition. This is not an insoluble problem. On the contrary, I believe that a good solution can be developed that is *explicit* and *competitively neutral.*

Explicitness means, to me, that the contribution to, or from, a universal service fund should be clearly defined. We should be able to look up in some database the subsidy to service Ted Turner's ranch, or the contribution from the grocery around the corner. That way, competitors will be able to know how much they can expect to get from or pay to the universal service pool for serving any particular customer, and they will be able to compete to do so.

Competitive neutrality means that, whoever now provides service and takes or gives those funds, they are equally available to, and equally expected from, competitors who might displace that incumbent.

### *UNIVERSAL SERVICE IS NOT PROTECTION OF INCUMBENTS*

We often talk as if threats to the sources of subsidy flows were threats to universal service, and this might be true if we failed to develop an explicit, competitively neutral mechanism. But more immediately they are threats to the incumbent's finances. For instance, if access charges are bypassed, the immediate impact is on the LEC's bottom line. Perhaps, as a result of this, many people carelessly talk about "universal service funds" that will be used substantially—even mostly—to protect the revenue flows of incumbents. This is, in my opinion, at best a terminological inexactitude.

We may perhaps owe something, legally or ethically, to the incumbents as we change the rules. Or we may instrumentally want to protect them during a transition period so as to preserve the health and vibrancy of their networks, which most of us will be relying on for some time to come. I think there are reasonable arguments on both sides of this. Either way, however, this is a separate concern from making sure that Americans can afford telecommunications service, and we should keep the separateness clear. This is not just a matter of clarity, important though clarity is. If the two are confused, it may stymie attempts to make subsidy flows explicit and competitively neutral.

### *UNIVERSAL SERVICE IS NOT BROAD SUBSIDY PROGRAMS*

Today, according to most commentators, broad classes of users are cross-subsidized by other classes of users. Businesses generally subsidize residential users, but within the residential category heavy users subsidize

light users, and urban users subsidize rural users.

Because light, rural, residential users are probably more likely to drop off the network than are heavy, urban, business users, these broad subsidy flows are not completely unrelated to universal service concerns. But the relationship is not very close. Camden, New Jersey, for example, is often cited as a disgraceful example of low penetration. Should subscribers in that urban, low-income, largely African-American city be subsidizing telephone subscribers among the rural gentry in the horse country of New Jersey through a statewide scheme, or prosperous ranchers in the freedom-loving expanses of Montana through an interstate scheme? I believe not.

To craft an affordable true universal service scheme, it seems to me, we must narrowly target assistance to those who need it. Lifeline rates make much more sense than massive schemes to try to keep all rates low—indeed, as a matter of arithmetic, a cross-subsidy scheme cannot possibly keep all rates low.

We must also recognize that the monthly price of basic service is by no means the only determinant of penetration. Many of those who drop off the network do so because they run up large toll bills which they are then unable to pay. Some have suggested that therefore basic service should not be contingent on payment of toll bills, any more than hospitals should refuse treatment to those who are behind on their cable bill. But whether this is wise or not, we—an inclusive we—need to think harder about what will make telephone service more appealing to those who currently don't take it. Would some customers prefer not to have "1+" toll service at all, if they can't trust themselves or their friends not to overuse it? Would some customers prefer a preset limit? These are, in a sense, marketing problems, and we need to bring that perspective into front and center in the universal service debate. Competition will help us do so.

To make subsidies to those who need them competitively neutral, it must be possible for *any* supplier of telecommunications to compete for the subsidy attaching to a particular user. If we ensure that the subsidy is enough to make service affordable for that user, it follows that competing for the subsidy is attractive for at least some carriers. Under competitive neutrality, it will be most attractive for the carrier who can most efficiently serve that user.

Undoubtedly, creating real competition with real universal service is even more demanding than creating real competition. But we should not let this obscure the basic fact that competition by itself makes more things affordable for more people more of the time. In the long run it is consumers and universal service who will suffer if, in the name of universal service, competition is hamstrung or stifled.